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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/396,470	09/15/1999	EUEE-SEON JANG	030681-152	7479

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EXAMINER

SEFI, BEHROOZ M

ART UNIT PAPER NUMBER

2613

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/396,470

Applicant(s)

JANG ET AL.

Examiner

Behrooz Senfi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to previous Office Action (Paper No. 9, dated Aug. 16, 2002) have been considered, but are moot in view of the new ground(s) of rejection.

Upon reconsideration of the claim rejection as set forth in the previous Office Action (Paper No. 9, dated Aug. 16, 2002), the Examiner realized that errors were made. The Examiner apologizes for any inconvenience and this new office action is being sent. Claim 8 has been canceled.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Bajaj et al. (US 6,438,266).

Regarding claim 1, Bajaja '266 discloses the claimed "3-D mesh information coding (i.e. fig. 10), and the claimed "dividing a 3-D mesh " (i.e. fig. 3a – 3c), and the claimed "coding each of the plurality of " (i.e. fig. 10, col. 3, lines 60+), and the claimed "multiplexing " (i.e. fig. 10, combine Encoding), and the claimed "decoding each of the

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Regarding claim 2, Bajaja '266 discloses the claimed "connectivity and geometry information" (i.e. fig. 31, abstract lines 4 – 5).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 – 7, 9 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bajaj '266.

Regarding claims 5, 10, and 15, Bajaj '266 teaches decomposing the bit streams into contours and dividing contours into plurality of mesh (i.e. fig. 3a – 3c), and the decoding process in claim 5 is reversible process of the encoder (see fig. 1, 14, and 18). Therefore, one skilled in the art would use the decoder (18) to decode the transmitted encoded 3-d image (see the encoding process (14) of fig. 1) to display (19). Composting the decoded image must be done by the decoder (18 of fig. 1, col. 1, lines 55+), which the decoded image has been reconstructed (synthesizing) for display (19), and the extracting mesh layers from 3-d mesh (see layers of 0 – 3 of fig. 3a – 3b).

Regarding claim 3, the limitation as claimed "extracting one or more mesh" and "dividing the one or more mesh" has been explained in the above rejection with respect to claims 5, 10, 15.

Regarding claims 4, 6, 7, 14, and 16, in the coding/decoding process, reusing the (coded) information to speed up the process of (compression) coding/decoding, would have been obvious to one skilled in the art.

Regarding claims 9, 11, 12, 18, and 20, as for "extracting mesh object layers", the limitation as claimed is substantially similar to claim 10, and has been discussed (see the above explanation with regards to claim 10), and as for "independently coding and transmitting", Bajaj '266 teaches compression and encoding and transmitting (see 14 and 15 of fig. 1 and also fig. 10), and the "decoding and reconstructing" (see 18, of fig. 1) and as for "removing the redundant information", would have been obvious to one skilled in the art since removing the redundant information is one of the means primarily used for compressing data.

Regarding claims 17, 19, and 13, Bajaj '266 teaches 3-d mesh information coding/decoding as discussed above, and as for "one or more mesh object layer coders" and "one or more mesh object layer decoders" (see abstract, lines 2+, fig. 1, 14 and 18, and also figs. 10, and 32), and the claimed "a 3-d mesh analyzer for receiving a 3-d mesh and dividing an input 3-d mesh into one or more mesh object layers", the functionality of "analyzer" as recited in the claim, for dividing a 3-d mesh into one or more independent mesh layers is similar to receiving the 3-d mesh and decomposing into one or more contours (see fig. 3a and 10).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone

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number is **(703)305-0132**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chris Kelley** can be reached on **(703)305-4856**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:


(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

B. S. B. S.

12/13/2002


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600